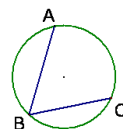
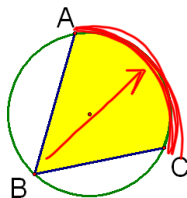


11.5 Inscribed Angles and Polygons

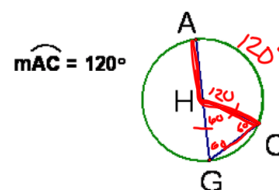
Inscribed angle - is an angle whose vertex is on a circle and whose sides contain chords of the circle.



Intercepted arc - is the arc formed by the angle

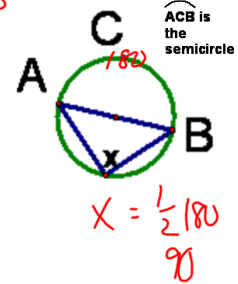
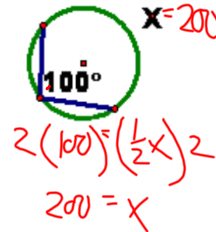
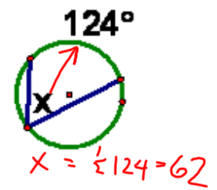
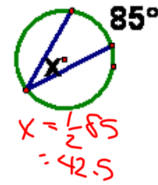
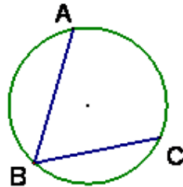


Find:
 $m\angle AHC = \underline{120}$
 $m\angle AGC = \underline{60^\circ}$

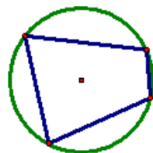
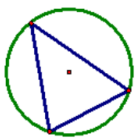


Theorem 11.7-If an angle is inscribed in a circle, then its measure is half of the measure of its intercepted arc.

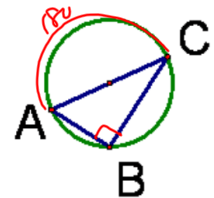
$$m\angle ABC = \frac{1}{2} m\widehat{AC}$$

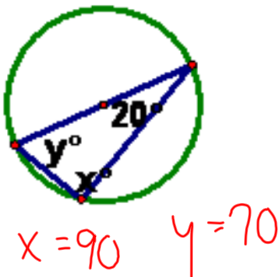


If all of the vertices of a polygon lie on a circle, then the polygon is **inscribed** in the circle, and the circle is **circumscribed** about the polygon.



Theorem 11.8-If a **right** triangle is inscribed in a circle, then the **hypotenuse** is the **diameter**.



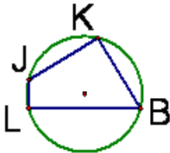


inscribed
GB

What type of angle is $\angle I$?
What arc does $\angle I$ intercept?
What is the measure of that arc?
What is the measure of $\angle I$?
What is the measure $\angle H$?
What do you notice about $\angle I$ and $\angle H$?

160°
 200°
 $\frac{1}{2} 200 = 100$
supplementary

Theorem 11.9-If a quadrilateral is inscribed in a circle, then opposite angles are supplementary.



Top-left: x° , 105° , x° . Calculations: $180 - 105 = 75$, $x = 75$.

Top-right: 94° , x° , 86° . Calculations: $180 - 94 = 86$, $x = 86$.

Bottom-left: y° , 115° , 110° , x° . Calculations: $180 - 115 = 65$, $180 - 110 = 70$, $y = 70$.

Bottom-right: 88° , x° , 62° , y° . Calculations: $180 - 88 = 92$, $180 - 62 = 118$, $x = 118$, $y = 92$.



HW

p617-619

9-22, 28-30, 32, 33